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Ministry of Energy, Mines
and Petroleum Resources

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To the Honourable JACK DAVIS
Minister of Energy, Mines and
Petroleum Resources
Parliament Buildings
Victoria, British Columbia

Sir:

I have the honour to submit the Annual Report of the Ministry of Energy, Mines and Petroleum Resources for the time period of April 1, 1988 to March 31, 1989.

Yours truly,

D.H. Horswill
Deputy Minister

The Honourable David C. Lam
Lieutenant-Governor of British Columbia

May It Please Your Honour:

I respectfully submit the Annual Report of the Ministry of Energy, Mines and Petroleum Resources for the time period of April 1, 1988 to March 31, 1989.

Jack Davis
Minister

Energy Resources Division

THE ENERGY RESOURCES DIVISION

Oversees the management of British Columbia's various energy resources and advises on energy policies and programs designed to:

- encourage economic development
- maintain environmental integrity
- balance current demands against future needs.

ASSISTANT DEPUTY MINISTER

MEDIATION AND ARBITRATION BOARD

Facilitates negotiations between petroleum operators and landowners concerning access to petroleum-bearing lands.

ENERGY POLICY BRANCH

Develops and recommends short- and long-term energy policy. It co-ordinates reviews of development proposals as well as the use and removal of energy resources. The Branch is comprised of:

- the Oil and Gas Policy Section
- the Electricity Policy Section
- the Project Analysis Section.

FORECASTS AND SPECIAL PROJECTS BRANCH

Prepares forecasts on energy supply and demand in the Province and undertakes special studies on energy projects. It is comprised of:

- the Forecast Section
- the Special Projects Section.

PETROLEUM TITLES BRANCH

Administers title to crown-owned subsurface oil and natural gas, and provides rights through a competitive bidding process. It approves geophysical operations and assures good practice. The Branch includes:

- the Lease Administration Section
- the Revenue Section
- the Drafting Section.

PETROLEUM GEOLOGY BRANCH

Carries out geological studies and provides information to the petroleum industry. It consists of three sections:

- Economic Geology
- Geophysical
- Reservoir Geology.

ENGINEERING AND OPERATIONS BRANCH

Regulates petroleum industry field operations to assure safety, protection of the environment and resource conservation. It provides resource analyses, oil and gas reserves data and statistical reports, and assessments of provincial policies and requirements. The Branch includes:

- Development Section
- Reservoir Engineering Section
- Field Operations.

The Oil and Gas Industry in 1988/89

A Statement of Principles between the federal government and the provincial government for the funding of the Vancouver Island gas pipeline was signed on September 22, 1988. The Victoria Gas Division of B.C. Hydro was sold to Vancouver Island Gas Co. Ltd. (VIGAS), a wholly-owned subsidiary of Inter-City Gas Corporation, on February 28, 1989 for $16.7 million ($6.7 million if the Vancouver Island pipeline does not proceed).

VIGAS was also awarded the local distribution rights for the remainder of the pipeline service area excluding Squamish which is currently served by Inland Natural Gas Co. Ltd. Pacific Coast Energy Corporation's application for an Energy Project Certificate to build the Vancouver Island pipeline was sent to over 30 federal and provincial agencies, then referred to the British Columbia Utilities Commission (BCUC) for further review. The BCUC's three-phase public hearing concluded at the end of March.

British Columbia's natural gas core market policy was released on July 5, 1988. The main objective of the policy is to ensure a long-term secure supply of natural gas at reasonable prices for a defined core market. This core market is defined as all natural gas consumers in the residential, institutional, commercial and industrial sector not currently purchasing natural gas directly and not exempted from the core market by the BCUC.

The Ministry worked on a Petroleum Royalty Management System (PRMS), designed to complement the new, simplified royalty system which came into effect June 1, 1988. Under the new royalty system a 15 per cent floor rate is levied on non-associated gas selling up to $50 per 10^3m^3. For conservation gas, the floor rate is eight per cent. The royalty rate increases as the price escalates above the $50 level. The PRMS is based on industry reporting procedures common to all three producing provinces and will become operational April, 1989.

Total revenues from petroleum tenure administration of oil and gas rights amounted to $145 million in 1988/89. In response to private industry interest, 316,000 hectares of oil and gas rights were offered for tender in the Peace River area in July 1988, resulting in bonus revenues of $41 million and the awarding of 59 new petroleum and natural gas tenures. This unusually large disposition will result in an increase in exploration activity in the coming years.

The size of the disposition was partly attributable to the oil and gas industry's focus on natural gas, as a result of the predicted gas deficit in the United States and the availability of new markets through deregulation. There is a keen perception of large undiscovered reserves of natural gas in British Columbia awaiting development to meet this need.

Energy Resources Division

The Lower Mainland experienced growing industry interest in exploration for conventional hydrocarbon prospects and for potential natural gas underground storage reservoirs. Although no additional drilling activity occurred, several new geophysical surveys were conducted. In the largest program, some 250 kilometres of Vibroseis data was acquired. In addition, a smaller survey was conducted in the Delta municipality.

In conjunction with renewed exploration interest in the Fraser Valley, the Ministry prepared a Lower Mainland exploration information package. This was presented to municipal governments and other interested parties in preparation for an anticipated sale of petroleum and natural gas rights in the fourth quarter of 1989. Ministry technical personnel visited and toured the underground storage facilities at Jackson Prairie near Chehalis, Washington.

The oil and gas royalty holiday programs both continued through the year with a resulting increase in industry activity. The number of wells drilled and the number of metres drilled both increased from the previous year. In particular, drilling activity increased in the Stoddart West, Eagle, Eagle West and Brassey Fields.

The Brassey oil field was partly delineated and some indication of its importance was made public during the latter part of 1988. By year-end, an agreement was being negotiated between the operator and the Ministry on the optimal plan of development.

Canadian Hunter Exploration Ltd. (Canhunter) continued its aggressive exploratory program in the Deep Basin by completing the Noel gas gathering system in early 1988. The system, which has a capacity of 1,410 10^3m^3 per day, is used to compress and transport raw, dehydrated gas from the Noel gas field to a pipeline terminal located at the British Columbia/ Alberta border. The gas is transported via a federally-regulated pipeline to Canhunter's Elmworth gas plant in Alberta for processing.

Placer CEGO Petroleum constructed a sweet gas processing plant, and operation was scheduled to begin in April of 1989. The plant, located 35 kilometres northeast of Fort St. John, has a capacity of 556.6 10^3m^3 per day of Kiskatinaw gas. Approximately 53 m^3 per day of stabilized liquids are also recovered.

By late 1988 and early 1989 exploration activity became increasingly more focussed upon gas exploration — particularly in previously unexplored or sparsely explored regions of the northeast sector. This activity, in turn, led to significant new gas discoveries in the Boulder, Ring/Border, Blueberry West, and Hossitl areas. In addition, significant new gas reserve additions were made in or near existing fields at Boundary Lake, Noel and Monias.

In the northern foothills area of northeast British Columbia, interest was revived in restoring production from the Nahanni Formation in the Beaver River Field. Also in this area, a potentially significant wildcat well — Colgas Crow (c-16-A/94-N-15) — was licenced to test the gas potential of the Nahanni and Permo-Pennsylvanian horizons.

In marked contrast to the northeast, exploration activity decreased in the southeast sector. The Chevron Shell Mansfield (c-72-D/82-G-15) exploratory well was abandoned in October after encountering only minor gas shows and extensive water-bearing porosity in the objective horizons. No significant additional exploration activity occurred in this region for the remainder of the reporting period.

Because of a small potential for sour gas, the Emergency Response Plan for the well was tested before the well was spudded. During the drilling of the well, guided tours of the rig facilities were conducted for local residents to mitigate community concern.

In total, 192 wells finished drilling during fiscal 1988/89. Of this number, 142 wells (74 per cent) were completed for oil and gas production. These statistics compare favorably to the 1987/88 drilling level of 188 wells. In addition to this increased level of drilling activity, a total of 327 geophysical crew-weeks were recorded. This represents a 33 per cent increase from the 246 crew-weeks recorded in fiscal year 1987/88 and points towards even higher levels of exploration activity in the near future.

On the westcoast offshore, the Geological Survey of Canada, in consultation with Ministry staff, continued extensive onshore and offshore geoscientific studies in the vicinity of the Queen Charlotte Islands. These were conducted as part of a three-year study under the auspices of the Frontier Geoscience Program.

The Electricity Industry in 1988/89

In the electricity sector, there have been several policy initiatives in response to the exhaustion of B.C. Hydro's firm hydro-electric surplus due to higher than expected load growth.

The end of the Industrial Electricity Discount Rate Program, which marketed surplus electricity at reduced rates for the purpose of assisting provincial industry, was announced in August as B.C. Hydro's firm hydro-electric surplus was fully committed. As an alternative to this program the Province established the Economic Development Electricity Rate Program, which will provide a limited amount of low-cost power, at reduced rates, until the mid 1990s.

The Province has developed an Electricity Strategy to guide the development and use of British Columbia's electricity resources to meet load growth over the next several years. A key element of this strategy is the new electricity pricing policy developed to provide incentives for conservation and forestall the need for new higher cost energy projects.

Energy Resources Division

As a blueprint for electricity development, the Electricity Strategy emphasizes increased competition. Provincial initiatives in this area include:

- Legislation which allows private access to the provincial transmission system.
- The introduction of a policy whereby B.C. Hydro may purchase power from independent power producers.
- The establishment of B.C. Power Export Corporation (POWEREX), the Province's electricity export agency responsible for the acquisition and sale of private and public firm surplus electricity for export.

Other elements to the Electricity Strategy which will unfold as we move into the 1990s include the development of power supplies which are environmentally benign or beneficial, initiatives to increase opportunities for industries to obtain power at the lowest possible cost consistent with maintaining environmental quality, and the role of electricity in promoting increased inter-provincial and international co-operation. These will be implemented as specific programs are introduced.

Energy Projects in Review

Energy project review activity increased during the year. Applications for Energy Project Certificates (EPCs) for Amoco's Cypress gas processing plant and Placer Cego's Boundary plant were reviewed and approved by the Ministers of Energy and Environment. West Kootenay Power's application for a gas turbine plant in Oliver was referred to the B.C. Utilities Commission after an inter-agency review; the application was subsequently refused by the Province because of siting, gas supply, and air emission concerns. The Vancouver Island Pipeline Project, as noted, was also the subject of a BCUC hearing.

Several independent power producers proposing to develop generation projects in response to B.C.Hydro/POWEREX calls submitted pre-application information.

Fording Coal Ltd.'s Energy Project Application was submitted in March, 1989 for review by several provincial, federal, and local government agencies. Westcoast Energy Inc. submitted a Prospectus for a major ethane-based petrochemical plant at Taylor. A draft EPC Application for a thermal electric generation project to service the proposed Cinola gold mine was also reviewed.

Interest in geothermal energy development was rekindled in 1988 due, in large part, to B.C. Hydro's POWEREX proposals to purchase electrical power in 50 megawatt blocks from independent power suppliers. Canadian Crew Energy Corporation, the geothermal rights holder at Meager Creek, has expressed interest in submitting an electricity generating proposal of this type.

Highlights

Energy Policy Branch

Energy Policy Branch efforts in 1988/89 focussed on the development of a natural gas pipeline to Vancouver Island, a new core market policy, a strategy for securing new electricity sources required to meet increased load growth and the continuing process of deregulation.

Sixty-two Energy Removal Certificates (ERCs) were active during the 1988/89 fiscal year. One long-term firm, 14 short-term firm and 33 short-term interruptible ERCs delivered 90.2 petajoules (PJ) (2302.5 10^6m^3) of natural gas to the United States. The majority of this gas was destined for consumption in the Pacific Northwest (Washington and Oregon). The remaining 14 ERCs, which were all short-term interruptible, removed 9.6 PJ (249.1 10^6m^3) of natural gas from British Columbia for delivery to Canadian markets, mainly in Ontario.

In response to a barge spill off Greys Harbour, Washington, and the subsequent tanker spill at Valdez, Alaska, staff participated on the U.S./British Columbia Oilspill Taskforce. The Taskforce, lead by the Ministry of Environment, is expected to report to British Columbia, Washington, Oregon and Alaska by December 1989.

Staff participated in the provincial Oceans Committee, formed in response to federal initiatives related to oceans policy in Canada. Ministry concerns relate to potential management of offshore oil and gas activity, international boundaries and jurisdictional issues.

Planning commenced for Ministry participation in the World Energy Congress to be held in Montreal in September, 1989. This most prestigious energy conference is being held in Canada for the first time in its history. A separate British Columbia package has been added to the program, following the conference, for delegates with an interest in visiting energy projects in the Province.

The Ministry committed its support and participation in Globe '90, to be held in Vancouver, March 19-23, 1990. The first of its kind in North America, the conference will focus on environmentally sustainable economic development.

Forecasts and Special Projects Branch

Branch activities during 1988/89 focussed primarily on the development of the Vancouver Island natural gas pipeline and on special energy studies.

Pipeline-related activities included the development of economic and financial analyses of pipeline costs and benefits. The results of these analyses were used to develop the government financing package for the project. Branch staff also worked closely with the Policy Branch in the sale of B.C. Hydro's Victoria Gas Division, and in the allocation of natural gas distribution rights for the North Island and Mainland Coast regions.

The Branch is responsible for the development and implementation of the conversion assistance programs for residential, commercial and industrial customers of the pipeline. In 1988/89 the Branch began a review of conversion potential and costs as the first stage of program development.

Special studies conducted in 1988/89 included a study of market opportunities for British Columbia natural gas exports to the United States, a report on the status of the petroleum refining industry, and a review of the development of ethane-based petrochemical industry in Western Canada. Other special projects included the preparation of the "British Columbia Energy Overview", a full-color document illustrating the Province's energy facts and trends.

Ongoing Branch activities in 1988/89 included the preparation of the "Energy Sector Update" (a quarterly review of provincial energy trends), co-ordination of quarterly resource revenue forecasts, and extensive upgrading of the Ministry's energy demand forecasting model.

Petroleum Titles Branch

Branch initiatives implemented during the year include the modification of stratigraphic zone designations within petroleum and natural gas titles. The zone designations were modified to conform to a more efficient method of describing available petroleum and natural gas rights developed in conjunction with the Geological Branch.

Treasury Board approval was obtained to upgrade the Petroleum Titles Administrative Computer System which will result in a potential revenue increase from the identification of additional petroleum and natural gas rights for disposition; increased compliance and analysis capability; and a more effective response to the needs of industry.

Crown petroleum and natural gas sale bonuses increased dramatically, partly due to the anomalous sale held in July 1988 and also to an increase in sale revenues throughout the year as a result of the interest generated by significant discoveries in the Boulder, Ring/Border, Boundary Lake and Brassey areas. A small increase was attributable to the number of deep rights parcels sold as a result of the stratigraphic reversion program.

The industry continued to consolidate land holdings by surrendering land that they had no immediate plans to explore.

Petroleum Geology Branch

Largely in response to growing industry interest in exploration for conventional hydrocarbon prospects and for potential natural gas underground storage reservoirs, and in anticipation of future activity, the Regional Geology Section developed a five-year project plan. The regional project components of the plan will be published upon completion and supplied to industry and other interested parties.

The Reservoir Geology Section moved towards increased automation of well log analysis functions in 1988. It is anticipated that the purchase of a geological workstation in the near future will further enhance geological data processing and report-generation capability.

The Zone Designation System was almost fully implemented in the 1988/89 fiscal year. To date, about 100 zones have been designated. Implementation has standardized and optimized the lease reversion process.

Considerable time was spent in providing geological advice and input into the design and development of the Petroleum Royalty Management System (PRMS). Due to the focus on timely PRMS development and implementation, upgrading of the Petroleum and Natural Gas System (PANG) was largely suspended in 1988/89.

The "Rocks, Rigs and Roughnecks" exhibit on the history of British Columbia's oil and gas exploration and development, opened at the Royal British Columbia Museum in November 1988. This exhibit, which received technical and financial support from the Energy Resources Division, is proving to be an extremely popular and effective means of informing visitors about the vital importance of these energy resources.

Planning also commenced on a Petroleum Geology Branch/Ministry exhibit for the upcoming Canadian Society of Petroleum Geologists "Exploration Update" conference to be held in Calgary in June, 1989.

Engineering and Operations Branch

The Branch continued its program of database improvements and enhanced, in particular, its ability to report reserves of natural gas by-products and typical pool raw gas analysis.

A Gas Vigilance Study was the second of two in a project to develop and test a detailed inspection program that verified the accuracy of reported oil and gas production and sales volumes used as the basis for calculating crown royalty. The objectives were to:

- Develop a detailed inspection program for gas facilities.
- Complete detailed inspections on a representative number of operating gas field facilities.
- Prepare and complete a computerized analysis of reported production and related data.

The project started in September, 1988, and was completed in March, 1989.

During the year, the Procedural Handbook was revised and distributed for general industry use. The Handbook explains the function of the Division within the Ministry and the responsibilities, organization, and procedures used by the various branches within the Division. The Handbook provides information and assistance to oil companies engaged in petroleum exploration and production in British Columbia.

Significant additions to the Handbook are Appendices 6 and 7 which deal with the drilling of sour gas wells in the Province. These two appendices outline the requirements for sour wells and the guidelines for operator emergency response plans and public consultation programs for special sour wells proposed to be drilled in British Columbia.

Petroleum Titles Activities

Activity — Titles Administered	1987/88		1988/89	
	Number	Hectares	Number	Hectares
Permits	175	2.5 million	112	1.3 million
Leases	6,668	3.7 million	6,587	3.5 million
Drilling Licences	255	0.7 million	318	0.9 million
Totals	7,098	6.9 million	7,017	5.7 million

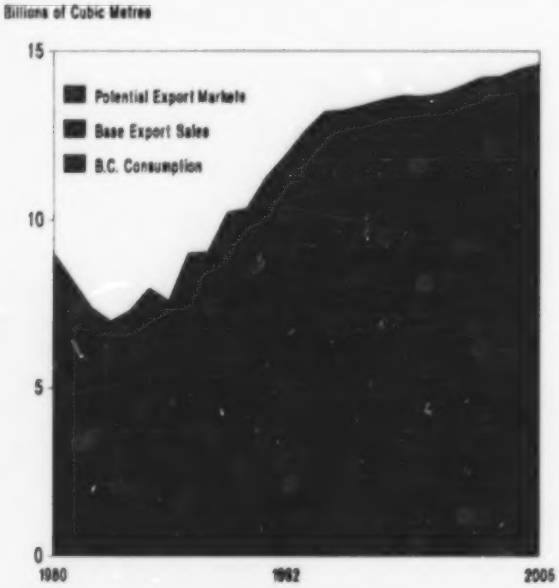
Provincial Revenue from the Petroleum Industry ($ Millions)

	1986/87	1987/88	1988/89
Rentals and Fees	34	34	33
Crown Reserve Dispositions	25	59	112
Oil	45	52	38
Natural Gas and Natural Gas By-Products	57	54	56
Permits and Fees	68	93	146
Totals	229	292	385

Value of Hydrocarbon Production ($ Millions) — value to the producers at the wellhead

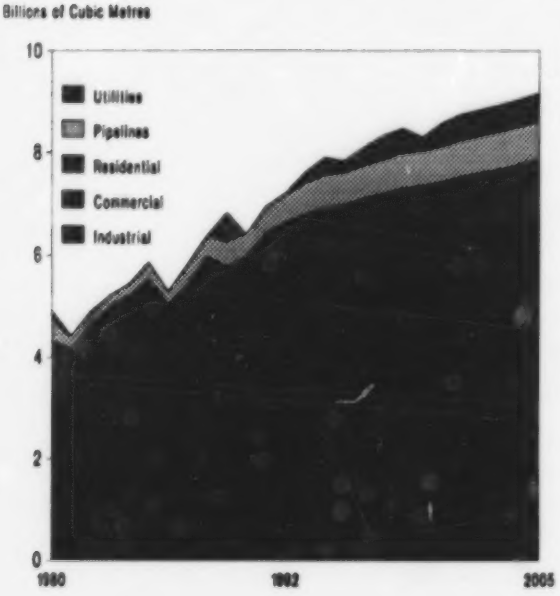
	1986/87	1987/88	1988/89
Crude Oil	246	291	211
Natural Gas	289	379	371
Natural Gas By-Products	13	22	16
Totals	548	692	598

Natural Gas Production and Exports



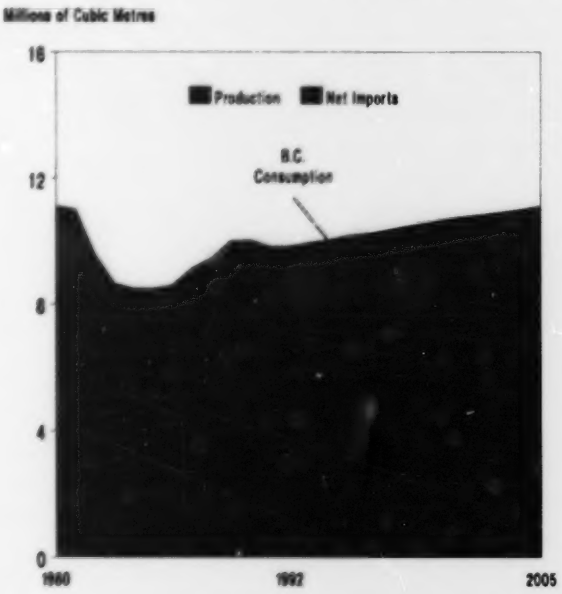
- Sufficient reserves (218 billion cubic metres) are available to support the development of new export and domestic markets well into the 21st century.
- Deregulation and declining productive capacity in the U.S. have opened new market opportunities for B.C. gas producers.
- B.C.'s base export sales are all to the Pacific Northwest — our traditional market.
- Potential sales to California could boost production to 12.8 billion cubic metres in the mid-1990s.

Natural Gas Consumption Trends



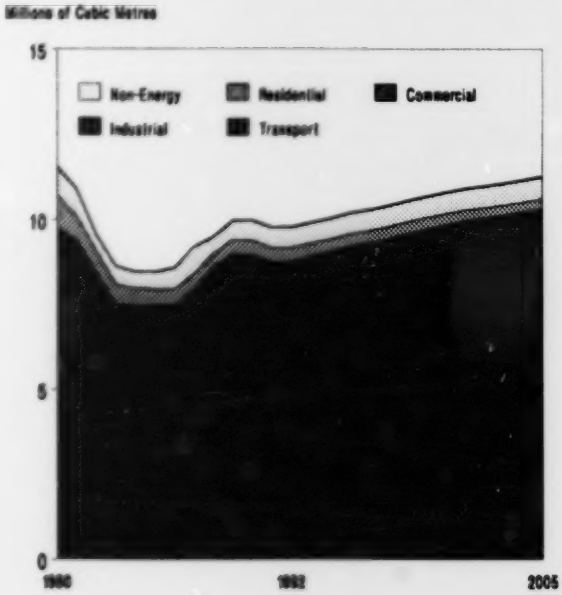
- Domestic natural gas consumption increased five per cent per year between 1980 and 1989.
- Demand is projected to increase by two per cent per year to the year 2005, including sales to the Vancouver Island natural gas pipeline.
- Total natural gas requirements include end-use consumption, pipeline fuel and gas burned in thermal plants to generate electricity.

Oil Supply and Demand



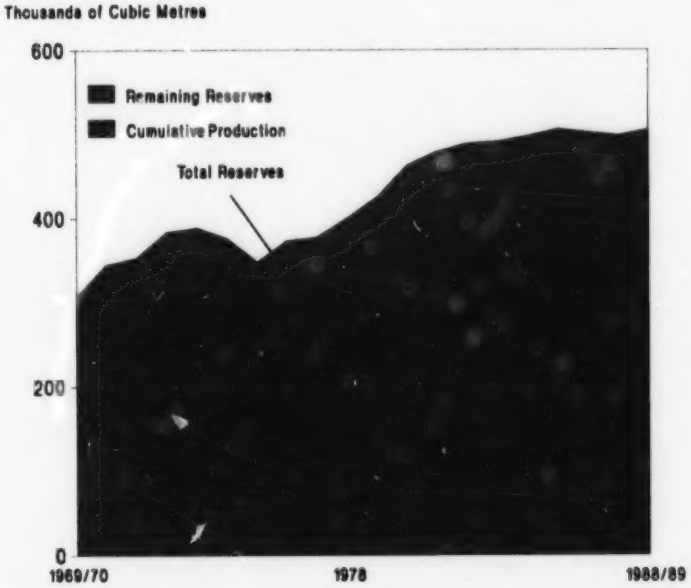
- B.C. depends on Alberta for approximately 75 per cent of its oil supply.
- Declining provincial reserves will result in future increases in imports from Alberta or offshore.
- A large oil discovery in 1988 at Brassey will help to slow the decline in production.
- Total B.C. refining capacity stands at about 61 million barrels per year.

Petroleum Product Consumption Trends

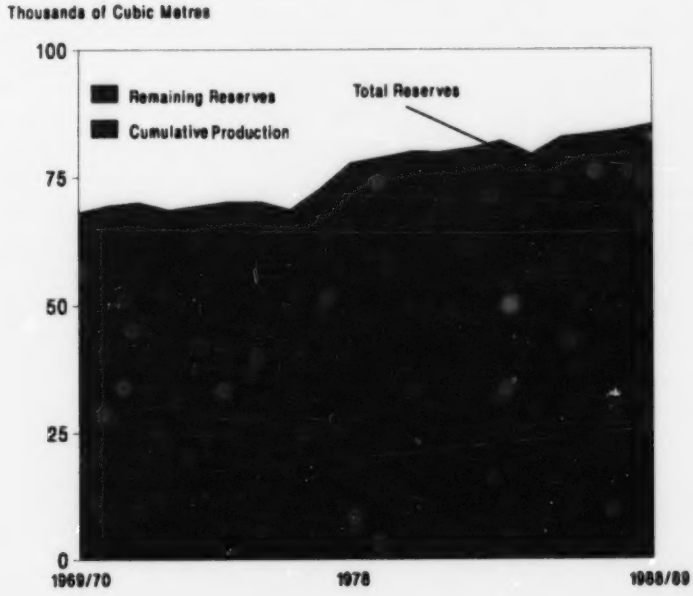


- Over 65 per cent of petroleum product demand in B.C. comes from the transport sector.
- While oil has largely been replaced in other uses by electricity and natural gas, there are few economical substitutes for gasoline.
- Transportation requirements are projected to increase by 1.3 per cent per year to the year 2005.
- The Vancouver Island pipeline will displace heavy fuel oil in seven pulp mills and light heating oil in the residential/commercial sector. Approximately two-thirds of a million cubic metres will be displaced.
- Total petroleum product consumption is expected to remain stable.

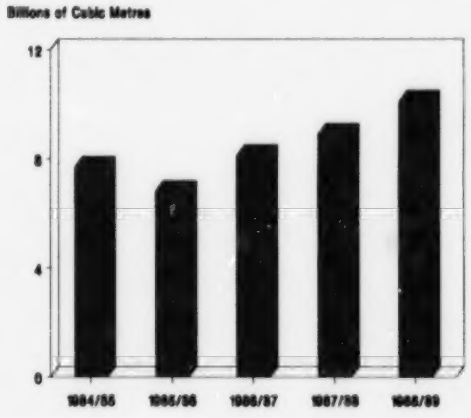
Growth in Raw Gas Reserves



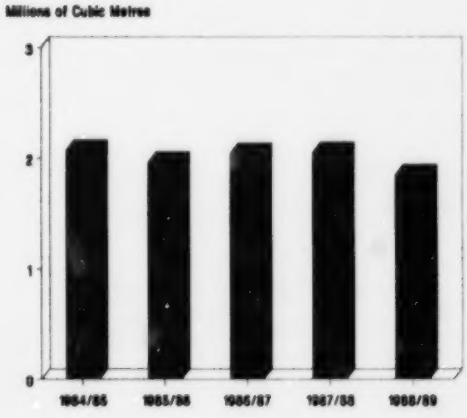
Growth in Oil Reserves



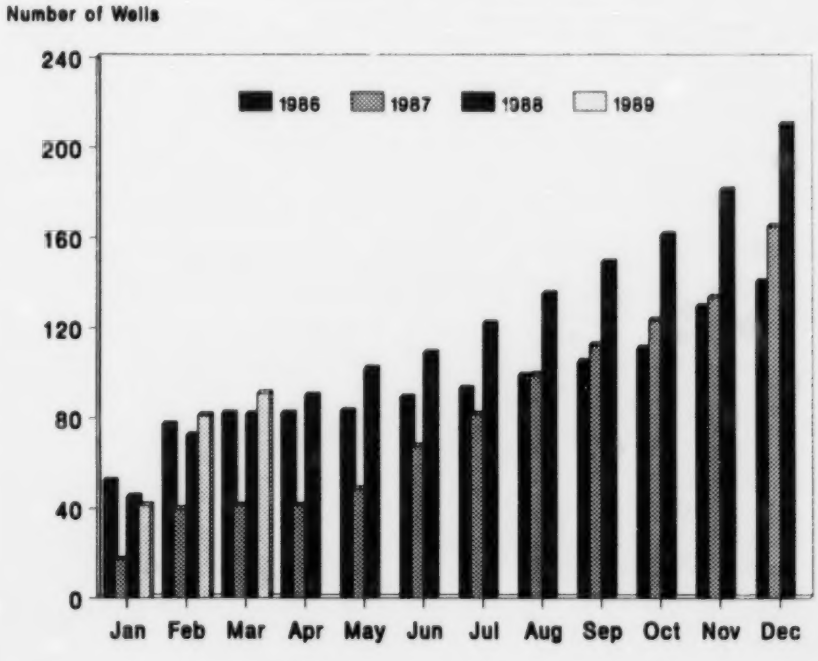
Marketable Gas Production



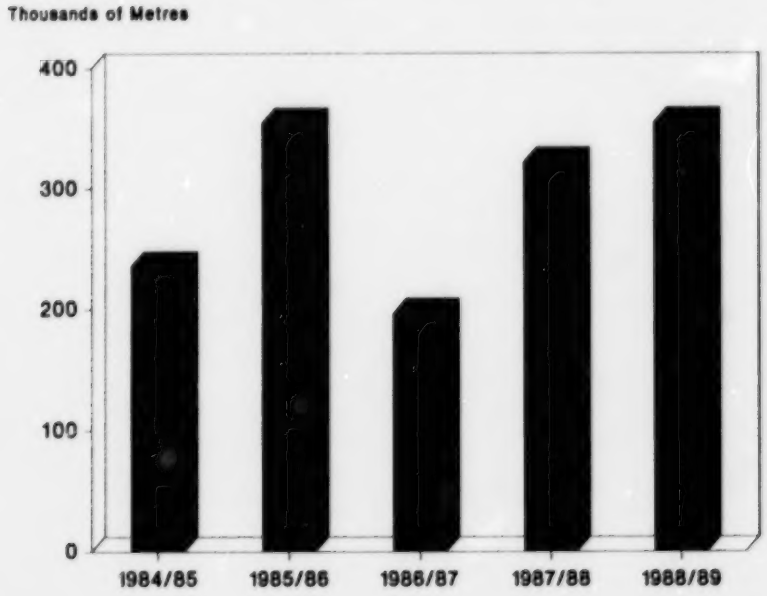
Oil Production



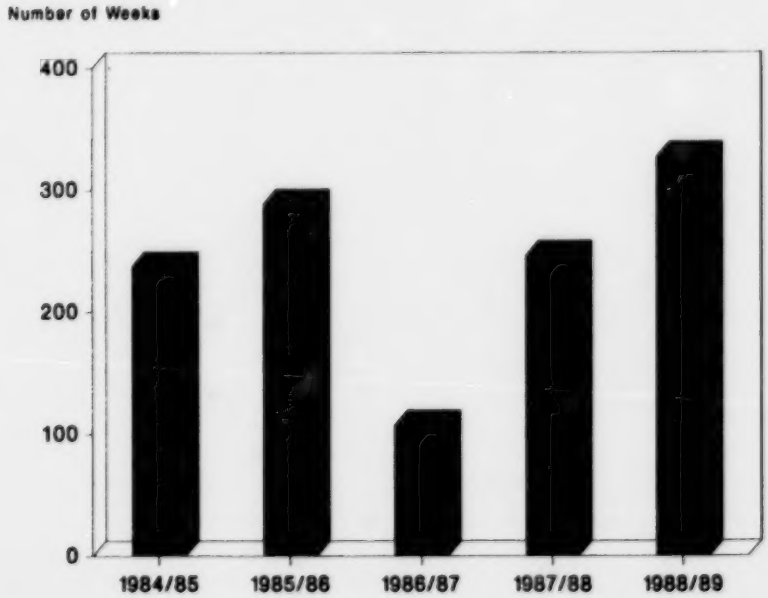
Number of Wells Drilled



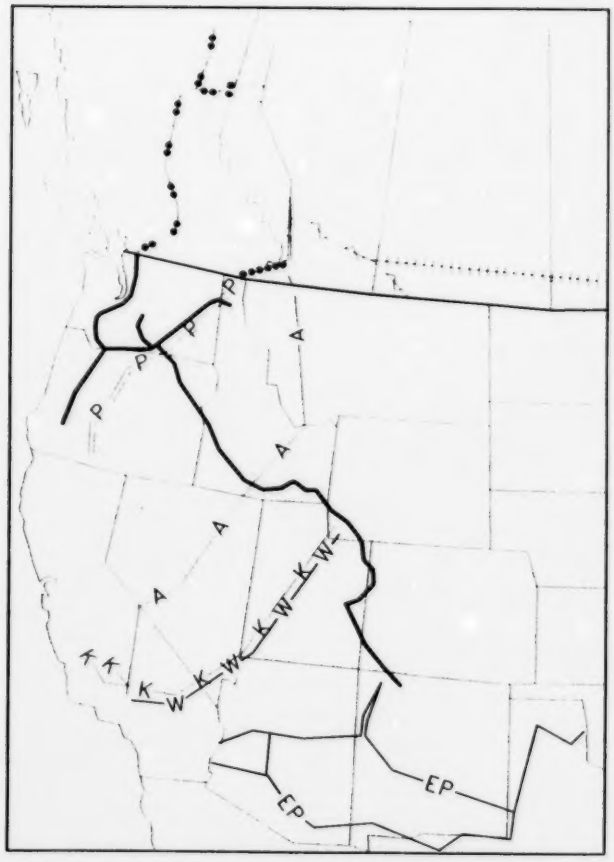
B.C. Petroleum Industry — Metres Drilled



B.C. Petroleum Industry — Geophysical Crew Weeks



Western North American Gas Pipelines



Existing Pipelines

- Westcoast Energy
- Foothills Pipe Lines
- Nova Corporation
- Alberta Natural Gas
- Transcanada Pipelines
- Northwest Pipeline
- Pacific Gas Transmission
- —EP— El Paso

Proposed Pipelines

- A Altamount
- —W— Wycal
- P P.G.T. Expansion
- K Kern River

Mineral Resources Division

THE MINERAL RESOURCES DIVISION

Oversees the operation of the British Columbia mining industry and facilitates the orderly development of mineral, coal and aggregate resources in the Province.

ASSISTANT DEPUTY MINISTER

MINERAL POLICY BRANCH

The Branch develops policy initiatives. It provides economic, financial and statistical analyses related to the mineral sector and maintains statistical data.

GEOLOGICAL SURVEY BRANCH

Carries out geological studies and maintains an inventory of the mineral deposits of the Province. Both studies and inventory data are used by government in making appropriate land use decisions. In addition, this information assists both industry and government in stimulating exploration and mining. The Branch also provides the mineral industry with geological data. There are four sections in the Branch:

- Mineral Deposits and Regional Mapping
- District Geology and Coal Resources
- Resource Data and Analysis
- Applied Geochemistry and Surficial Geology.

ENGINEERING AND INSPECTION BRANCH

As mandated in the Mines Act, this Branch ensures worker health and safety, public safety, mine reclamation, and the maximum economic extraction of mineral and coal resources based on sound engineering practices. The Branch also facilitates an orderly review and approval process for new mining proposals in B.C. To accomplish these goals, the Branch maintains a network of district offices and specialists. The Branch has nine sections:

- General Mining
- Geotechnical
- Mechanical
- Electrical
- Reclamation
- Industrial Hygiene
- Mining and Petroleum Roads
- Mine Development Review Process
- Mine Rescue/ Emergency Preparedness.

MINERAL TITLES BRANCH

Administers laws and regulations pertaining to the acquisition and maintenance of mineral tenures. Provides the best possible level of service to other agencies of government, the mining industry, and the general public. This is achieved by supporting the promotion of exploration and development of the Province's mineral resources through the efficient unbiased administration of secure title to Crown mineral and coal lands.

The Mining Industry in 1988/89

Canada's mineral industry continued to benefit from the sustained price boom for many commodities in 1988/89. Profitability of most companies in the mining sector improved significantly. Rising base metal prices reflected a tighter global supply of minerals. The higher mineral prices, combined with increased sales volumes, resulted in net mining revenues reaching a record high in 1988.

The total value of minerals produced in British Columbia increased more than 14 per cent over 1987 to $3.2 billion. This increase reflected higher values of production in both the coal and metals sectors. Production volumes of most minerals also increased, reflecting the Province's producers' ability to respond to positive market conditions.

The coal industry gained more strength due in large part to record Japanese steel production. Coal production increased 12 per cent in 1988, and by early 1989 most suppliers had all available volumes fully committed to contracts. Southeast coal producers won increases in contract prices at the end of the fiscal year. However, coal prices are negotiated in U.S. dollars, and the appreciating Canadian dollar offset much of the gain. Coal companies sought and won new sales opportunities in both traditional and new markets.

Sales from the Quinsam mine on Vancouver Island have been increasing steadily, and are now primarily to cement and chemical plants in Japan. Test shipments are also scheduled for an electric utility in Japan. Other sales are to the domestic pulp and paper and cement plant industries in British Columbia and Washington State.

Copper producers benefited from record high copper prices throughout 1988/89. The high prices have sparked renewed interest in exploration projects involving copper in the Province, and several properties show good potential. Highland Valley Copper continued with its plans to centralize milling facilities and to implement mine plan revisions. When the rationalization is complete, the daily milling rate will be raised to 131,000 tonnes. Improved market conditions and productivity increases allowed two expansions of the Bell Mine's open pit, adding three years to the life of the mine. Newmont Mining Corporation sold its Similkameen mine to Cassiar Mining Corporation. The operation was renamed Similco Mines Limited, and Cassiar revised the mine plan and operations to extend the mine life by five years. In the northern Quesnel Trough interest generated by developments at the Mt. Milligan deposits triggered an exploration and claim staking rush.

Molybdenum prices remained stable in 1988/89. Demand has exceeded supply for the past two years, and inventories are estimated to have been drawn down by about 40 per cent. Placer Dome increased molybdenum output at its Endako mine to 80 per cent of capacity.

Mineral Resources Division

Lead and zinc volumes returned to normal levels following last year's labor dispute at Cominco's Trail smelter. Demand for zinc was particularly strong over the period, and the market responded with dramatic price increases. Lead prices also increased steadily. Modernization of Cominco's lead smelter, and construction of an air separation plant to supply it with oxygen, continued in 1988/89. Cominco also continued on a project to upgrade its zinc solution purification capability.

The world asbestos market improved considerably due to growing acceptance of the controlled use of certain asbestos fibres. Increased market demand is particularly apparent in some developing countries. Cassiar Mining Corporation, assisted by a provincial government loan of $25 million, commenced development of the McDame underground deposit. Mining of the McDame deposit is expected in 1990. Cassiar has also developed a wet milling operation which has reached the pilot plant stage.

Exploration for precious metals reached an all time record of $211 million in spite of declining gold and silver prices. Exploration was particularly active in the Stewart-Sulphurets, Iskut River Golden Triangle and Galore Creek mining camps. The vigorous exploration pace of the past several years resulted in an unprecedented level of development.

The Johnny Mountain gold mine was officially opened in August 1988, and the Lawyers gold/silver mine poured its first doré bar in January 1989. In late 1988, heap leaching began at the Candorado Mines Ltd. operation at Hedley. The Premier, Samatosum and Golden Bear projects were under active construction, and several other precious metal projects are nearing production decisions.

Highlights

Mineral Policy Branch

The Mineral Policy Branch pursued initiatives in 1988/89 related to mineral tax reform, the impact of mine closures in the Province, reclamation fund mechanisms and access roads to areas rich in mineral resources.

The Honourable Jack Davis and senior government officials met with representatives of British Columbia's mining industry on November 4, 1988, to review progress made on recommendations given to Premier Vander Zalm and Minister Davis by the Mineral Industry Task Force in 1987.

The focus of the meeting was mineral taxation. Ministry officials presented proposed goals and objectives of mineral tax reform developed during the year-long review of mineral taxation initiated by the 1988 Speech from the Throne. Proposed goals included encouraging new investment, keeping existing mines open, and ensuring mineral taxes are levied in an equitable manner. Other topics covered at the meeting included land use, public understanding of mining issues, government/industry discussion and improvements in Ministry geological programs and tenure systems.

On December 6, 1988, senior government officials met again with industry representatives and outlined a mineral tax reform proposal, based on the goals and objectives discussed earlier with industry. The proposal was received by industry and is the subject of ongoing industry/government discussions.

The Mine Closure Task Force was established in August. The Task Force is charged with developing a broad strategy of provincial government action to maintain employment and incomes in the face of anticipated closures or reduced operations at mines in British Columbia. By early 1989, a study was underway to review the possible impacts on affected workers and communities, and to examine existing community labor adjustment programs and initiatives. The study is jointly funded by the Mineral Policy Branch and the Mineral Development Agreement. The Task Force will be recommending changes to existing programs, as well as suggesting new initiatives which would minimize the impacts of mine closures and stimulate alternative mining and non-mining economic development opportunities.

The Iskut Road Study was announced in February. The project is intended to define a corridor from the Stewart-Cassiar highway to the developing mining camps in the Iskut-Unuk Rivers area. The project is jointly funded by the federal and provincial governments, under the Mineral Development Agreement, and by 19 mining companies.

Geological Survey Branch

The 1988/89 Financial Assistance for Mineral Exploration (FAME) Program offered only cash grants under the Prospectors Assistance Program. Grants were awarded to 128 prospectors, totalling $377,000. Other grants under FAME previously available were not offered as the Province's producing mines returned to profitability and mineral exploration reached record levels.

The Geological Survey Branch's field program of geological and geochemical mapping was expanded, with 32 projects supported by the Province and 10 by the Canada/British Columbia Mineral Development Agreement. The Agreement, covering four field seasons, expires in the spring of 1990.

The expanded program concentrated on 1:50,000 scale geological mapping in poorly-known and underexplored parts of the Province. Maps of this scale have been identified as the fundamental underpinning for industry exploration work. Two new projects were started in the Stikine River area and one in the Atlin district.

The Regional Geochemical Survey of northern Vancouver Island was completed in the summer. Research by Branch geochemists has shown that mosses, which are prolific in British Columbia rain forests, act as a golden fleece for capturing gold in streams. Accordingly, the 1988 survey included extensive moss mat sampling. The 1987 survey covering the northwest part of the Province was released in July 1988 and sparked a staking rush.

Field work in the Province's coalfields included a new mapping project on Vancouver Island coals. Of particular note was a pilot study of small-diameter drilling to obtain fresh, unoxidized coal samples in underexplored areas to determine coal rank.

The Branch continued a major program to inventory the industrial mineral resources of the Province. Field inventories of gypsum, wollastonite, and fluorspar were completed. A new provincial map of industrial mineral occurrences was released.

The mineral deposits program continued to focus on precious metals. Studies were undertaken on the Bralorne, Quesnel, Iskut, Rossland, and Hedley mining camps.

The Branch's District Geologist offices in the northeast and southeast coalfields were closed after 10 years of service, due to Ministry staffing priorities and low demand for services. A full-time geological editor was appointed to handle the record number of publications from the expanded field program.

Engineering and Inspection Branch

Over 2,800 inspections of mineral and coal exploration sites, placer mines and sand and gravel operations were performed during 1988/89. New initiatives included the introduction of comprehensive safety audits at producing and developing mines and a contract inspection program to improve coverage at placer mines, sand and gravel and exploration sites to monitor safety, health, reclamation and environmental protection.

The industry, labor, government and university participants in the Mines Act and Regulation review were completing their work at year end and preparing to introduce a new Mines Act in the 1989 Spring Legislative Session. The mandate of the Act and accompanying safety, health and reclamation code is to provide for protection of health and safety of mine workers, safety of the public, protection and reclamation of the land and watercourses, and optimum resources utilization.

The British Columbia Acid Mine Drainage Task Force, chaired by the Branch, co-ordinated three research projects during 1988 and generated industry cost-sharing of 12 additional projects slated for 1989. A major research project, funded by the Ministry, to demonstrate and test various prediction, prevention, treatment, control and monitoring techniques, was the first stage of the abandoned Mt. Washington acid mine drainage abatement program. The strong commitment to this work places British Columbia on the leading edge of developing viable solutions to this worldwide problem.

The Branch sponsored the Mechanical/Electrical Symposium as well as the Reclamation Symposium. The Regional and Provincial Mine Rescue Competitions were organized in conjunction with industry participants.

The Branch has been recognized worldwide for the development of testing standards for braking systems on the large haulage trucks used at mines. Branch engineers have now begun to develop standards for testing new non-asbestos brake linings. A major study of electrical grounding systems of high voltage mobile surface substations was carried out. The standards that were developed will be adopted by mines across Canada.

Progress was made during the year in efforts to improve service to the industry and to the public by computerization of information systems. Several major systems are under development which will assist in tracking and monitoring health and environmental concerns and safety trends relative to the industry. A "Mine Accident Reporting System" will provide a detailed analysis to the mines of their own accidents. Also, the system will provide the Branch with overall accident causes, frequency, and trends. This same system will be compatible with, and may well provide the basis for, nationwide systems, allowing British Columbia to draw on national experience in its accident prevention program.

Mineral Resources Division

The administration of the Mine Development Review Process, the Province's procedure for reviewing mining proposals, was transferred to the Engineering and Inspection Branch from the Mineral Policy Branch in May, 1988. In this way, the Ministry's entire regulatory mechanism for mining, from exploration through mine development to production and abandonment, is now handled by one Branch. This has made greater regulatory continuity and efficiency possible, and improved service to clients. In the same month, the Branch embarked on an initiative to formalize its regional committee system. The intent is to regionalize many mine review functions as part of overall government trends to more decentralized decision-making.

During 1988/89, several projects moved closer to production decisions under the Mine Development Review Process. Eight metal and industrial mineral development proposals were approved in principle and consigned to Stage III of the review process (the licencing stage).

Prominent in the review process were:

- The Golden Bear/Silver Project, for which road access construction began immediately following approval-in-principle in March, 1988.
- The South Wall Pushback at the Island Copper Project, which began construction in 1988, having entered Stage III in January, 1988.
- The McDame Extension at the Cassiar Asbestos Project, which began construction following approval-in-principle in July, 1988.
- The Samatosum Silver Project, which began construction following approval-in-principle in November, 1988.
- The Ajax Pit at the Afton Gold/Copper Project, which was approved in principle by Cabinet in February, 1989.

The review process handled a record workload in 1988, consisting primarily of precious metal projects. Over the calendar year, 40 submissions were filed for review, a 40 per cent increase over the previous record year. The rate of filing submissions declined slightly in early 1989, and over the 1988/89 fiscal year, 35 submissions were filed.

Mineral Titles Branch

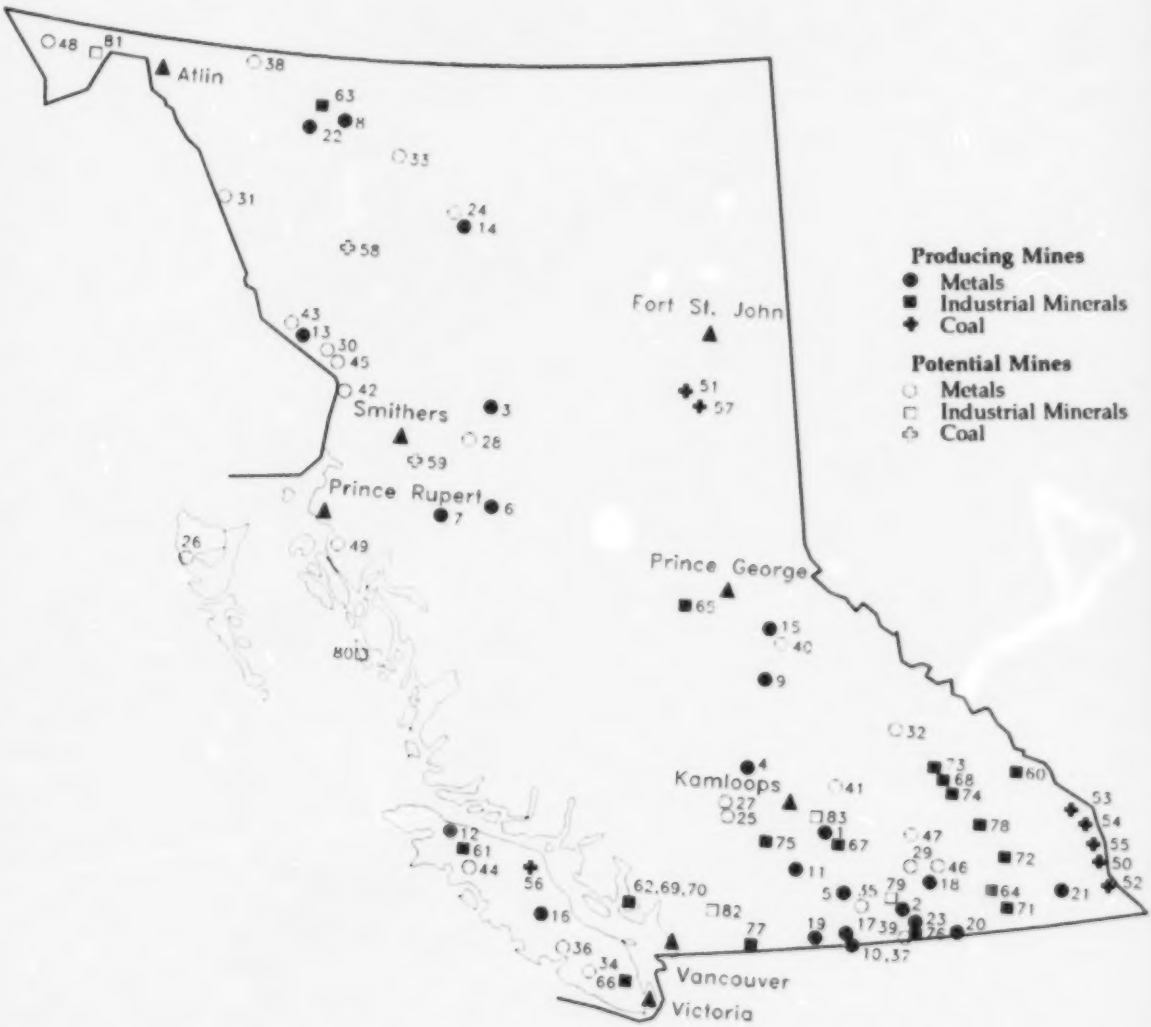
The Mineral Tenure Act was introduced in the Spring 1988 Session of the Legislature and was enacted on August 15, 1988. The Act provides a modern statute whereby mineral and placer titles may be acquired and maintained, and establishes the duties and responsibilities for the administration of the mineral title system. Work began on a replacement of the Mining Right of Way Act, and the Bill received third reading in the Spring 1989 Session. Amendments were also introduced to the Coal Act to make provision for the submittal of geological reports.

Development of a computerized system of recording title acquisition and maintenance continued with the successful implementation of a software package which will provide for province-wide access to the titles data base by the divisional offices. The Victoria and Vancouver Mining Divisions were fully automated and the manual paper system has been reduced. A redraw of higher-use map sheets began and 54 were completed by fiscal year end. These included placer maps of the Barkerville area with over 600 titles per map sheet and congested mineral map sheets in the Highland Valley and Rossland areas.

Preparation of maps and regulations and the creation of a new mining division preceded the implementation of mineral tenure acquisition in Section 19 Recreation Areas. Drafting staff responsible for the update of mineral title maps visited selected mining division offices to install the revised map copies. A total of 376 map sheets were delivered to five mining divisions and preparatory work was ongoing on a further 427 maps.

The Branch recorded 10,807 claims in 1988. This level of activity was a repeat of last year's record levels.

Major Producing Mines and Selected Potential Mines, 1988/89



Producing Metal Mines

1. Afton (Cu, Au, Ag)
2. Beaverdell (Ag, Pb, Zn)
3. Bell (Cu, Au, Ag)
4. Blackdome (Au, Ag)
5. Brenda (Cu, Au, Ag, Mo)
6. Endako (Mo)
7. Equity (Ag, Au, Cu)
8. Erickson (Au, Ag)
9. Gibraltar (Cu, Au, Ag, Mo)
10. Hedley Tailings (Au)
11. Highland Valley Copper (Cu, Au, Ag, Mo)
12. Island Copper (Cu, Au, Ag, Mo)
13. Johnny Mountain (Au, Ag)
14. Lawyers (Au Ag)
15. Mosquito Creek (Au)
16. Myra Falls (Cu, Zn, Au, Ag)
17. Nickel Plate (Au)
18. Silvana (Pb, Zn, Ag)
19. Similco (Cu, Au, Ag)
20. Skylark (Au)
21. Sullivan (Pb, Zn, Ag)
22. Taurus (Au)
23. Union (Au)

Potential Metal Mines

24. Al (Au)
25. Bralorne (Au)
26. Cinola (Au, Ag)
27. Congress (Au, Ag)
28. Dome Mountain (Au, Ag)
29. Esperanza (Au)
30. Gold Wedge (Au, Ag)
31. Golden Bear (Au, Ag)
32. JL/Equinox (Au, Ag, Pb, Zn)
33. Kutcho Creek (Cu, Zn, Ag)
34. Lara (Au, Zn, Cu)
35. Lumby (Au, Ag)
36. Macktush Creek (Au, Ag, Cu)
37. Mascot Tailings (Au)
38. Midway (Ag, Pb, Zn)
39. Oliver (Au)
40. Quesnel River (Au)
41. Samatosum (Ag, Au)
42. Silbak Premier/Big Missouri (Au, Ag)
43. Snip (Au, Ag)
44. Spud (Au)
45. Sulphurets (Au, Ag)
46. Willa (Au, Cu)
47. Windflower (Au)
48. Windy Craggy (Cu, Co, Au, Ag, Zn)
49. Yellow Giant (Au, Ag)

Producing Coal Mines

50. Balmer
51. Bullmoose
52. Byron Creek
53. Fording
54. Greenhills
55. Line Creek
56. Quinsam
57. Quintette

Potential Coal Mines

58. Mount Klappan
59. Telkwa

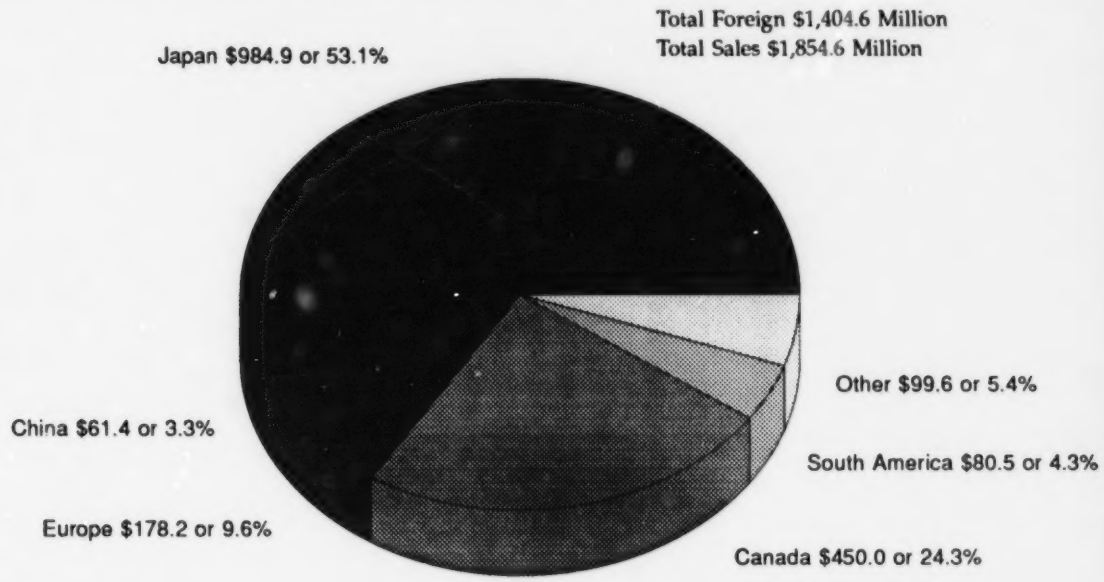
Producing Industrial Mineral Mines

60. Baymag (Magnesite)
61. Benson Lake (Limestone)
62. Blubber Bay (Limestone)
63. Cassiar (Asbestos)
64. Crawford Bay (Dolomite)
65. Dahl Lake (Limestone)
66. Dunsmuir (Clay)
67. Harper Ranch (Limestone)
68. Hunt (Silica)
69. Ideal Cement (Limestone)
70. Imperial Limestone (Limestone)
71. Lost Creek (Limestone)
72. Lussier River (Gypsum)
73. Moberly (Silica)
74. Parson (Barite)
75. Pavilion Lake (Limestone)
76. Rock Creek (Dolomite)
77. Sumas Mountain (Clay)
78. Westroc (Gypsum)

Potential Industrial Mineral Mines

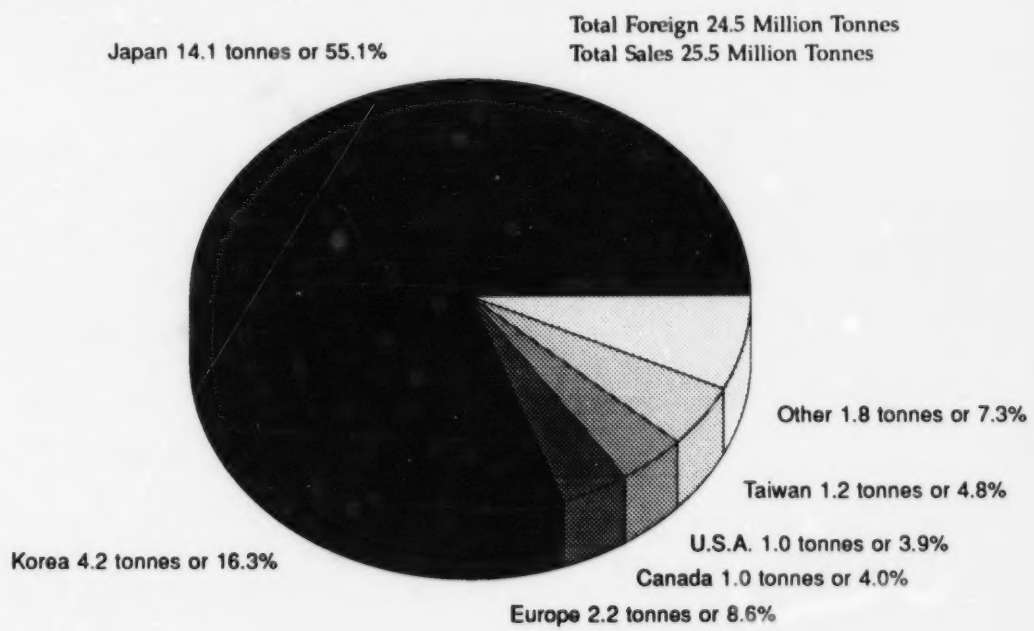
79. Bearcub (Feldspar, Quartz, Mica)
80. Laredo (Limestone)
81. O'Connor River (Gypsum)
82. Pacific Talc (Talc)
83. Red Lake (Fuller's Earth)

Destination of Metals Shipped from B.C. Mines in 1988* ($ Millions)


Total Foreign $1,404.6 Million
Total Sales $1,854.6 Million
Japan $984.9 or 53.1%
Other $99.6 or 5.4%
China $61.4 or 3.3%
South America $80.5 or 4.3%
Europe $178.2 or 9.6%
Canada $450.0 or 24.3%

Note: Metals are shipped in ores/concentrates.

Destination of Coal Shipped from B.C. in 1988* (Million Tonnes)


Total Foreign 24.5 Million Tonnes
Total Sales 25.5 Million Tonnes
Japan 14.1 tonnes or 55.1%
Other 1.8 tonnes or 7.3%
Taiwan 1.2 tonnes or 4.8%
U.S.A. 1.0 tonnes or 3.9%
Korea 4.2 tonnes or 16.3%
Canada 1.0 tonnes or 4.0%
Europe 2.2 tonnes or 8.6%

* All figures are preliminary.

Mineral Production in British Columbia, 1987 and 1988

	1987 Actual		1988 Actual	
	Quantity	$ Value	Quantity	$ Value
Metals				
Copper kg	355,897,693	842,341,196	353,481,625	1,117,031,341
Gold g	12,101,160	239,101,394	12,772,640	229,238,857
Iron Concentrates t	58,070	2,220,950	59,458	2,203,210
Lead kg	69,911,213	49,828,244	105,296,208	74,349,472
Molybdenum kg	14,138,543	121,687,917	12,924,198	116,005,450
Silver g	371,599,737	122,562,405	423,440,789	112,539,299
Zinc kg	100,718,749	109,368,709	139,377,351	212,299,874
Others	—	3,274,214	—	12,106,241
Total Metals	—	1,490,385,029	—	1,875,773,744
Industrial Minerals				
Asbestos t	97,848	46,938,025	109,139	54,240,546
Sulphur t	505,831	64,885,085	510,307	43,134,889
Others	—	13,405,688	—	14,086,830
Total Industrial Minerals	—	125,228,798	—	111,462,265
Structural Materials				
Cement t	1,312,074	88,181,547	1,519,634	106,494,497
Sand and Gravel t	49,259,996	131,316,297	48,517,177	120,241,876
Others	—	39,048,533	—	31,420,330
Total Structural Materials	—	258,546,377	—	258,156,703
Coal t	22,586,852	892,521,959	25,520,000	1,040,099,000
Totals	—	2,766,682,163	—	3,218,328,000

Mineral Claims Staked By Mining Division — April 1988 — March 1989

Mining Division	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Totals
Alberni	15	22	19	16	41	12	29	8	14	6	22	20	224
Atlin	99	49	45	36	157	29	21	48	37	7	38	3	569
Cariboo	74	60	84	124	111	234	274	137	183	142	103	132	1,658
Clinton	14	26	13	25	41	22	92	16	40	31	27	30	377
Fort Steele	9	28	26	38	25	24	36	35	16	14	31	61	343
Golden	2	5	29	16	17	19	17	4	0	4	1	3	117
Greenwood	21	14	25	41	11	29	26	10	31	5	21	29	263
Kamloops	63	68	111	127	89	76	32	43	101	55	45	59	869
Liard	21	57	152	171	212	116	94	24	25	188	54	148	1,262
Lillooet	9	7	69	20	28	50	43	11	14	16	15	24	306
Nanaimo	23	23	42	54	38	45	16	36	25	10	33	52	397
Nelson	41	56	20	35	147	89	70	19	12	11	10	83	593
New Westminister	13	22	13	16	43	24	26	36	63	24	16	36	332
Nicola	5	16	66	36	30	22	16	19	13	6	27	21	277
Omineca	48	77	61	125	142	122	148	55	93	44	106	114	1,135
Osoyoos	36	12	34	29	59	10	19	14	29	10	23	22	297
Revelstoke	7	14	10	12	37	23	28	18	12	2	3	15	181
Similkameen	25	16	20	18	27	55	58	26	18	2	15	18	298
Skeena	18	37	34	100	56	45	27	71	69	87	128	194	866
Slocan	25	15	36	47	39	25	28	28	7	17	32	4	303
Trail Creek	5	15	20	10	28	48	62	2	0	0	0	0	190
Vancouver	14	21	19	7	11	13	30	20	7	9	16	44	211
Vernon	7	10	317	176	18	37	63	37	30	23	11	18	747
Victoria	18	15	32	21	21	19	10	24	12	20	6	44	242
Totals	612	685	1,297	1,300	1,428	1,188	1,265	741	851	733	783	1,174	12,057

Provincial Revenue from the Mining Industry ($ Thousands)

	1984/85	1985/86	1986/87	1987/88	1988/89
Claims, Coal Licences and Rentals	7,092	4,649	6,530	7,366	7,120
Coal, Minerals and Metals Royalties	23,203	23,821	24,087	22,795	24,724
Mineral Land Tax	17,409	18,622	16,507	12,215	12,656
Mineral Resource Tax	5,850	4,968	8,016	10,418	26,431
Mining Tax	2,183	4,113	445	792	3,719
Total	55,737	56,173	55,585	53,586	74,650

Employment in the Mineral Industry in British Columbia to 1988

	Metal Mines and Smelters	Coal	Structural Materials	Industrial Minerals	Other	Total
1984	9,208	5,781	492	437	4,789	20,707
1985	8,102	5,821	907	410	4,262	19,502
1986	7,712	5,210	983	419	3,650	17,974
1987	8,380	5,144	1,069	411	6,320	21,324
1988*	9,100	5,250	1,100	400	5,500	21,350

*Estimate

THE REVENUE AND OPERATIONAL SERVICES DIVISION

Manages the assessment and collection of taxes and royalties from the mineral and petroleum industries and provides support for the Ministry's operations and programs.

EXECUTIVE DIRECTOR

RESOURCE REVENUE BRANCH

Administers tax and royalty regimes for the collection of revenues from the mining and petroleum industries. Ensures compliance with statutory intent in self-assessing revenue programs through an adequate audit process.

ADMINISTRATION BRANCH

Manages office space, field equipment, vehicles, telecommunications, assets, purchasing, and mail and courier services for the Ministry. The Branch also provides the Ministry Library services.

INFORMATION SYSTEMS BRANCH

Provides systems services including planning, purchasing, installation and end-user support; and project administration, technical support and data management for the Ministry's natural resources databases.

FINANCIAL SERVICES BRANCH

Provides financial services and direction to the Ministry in the areas of financial reporting, budget preparation, management services, payroll administration, and management information reporting.

PERSONNEL SERVICES BRANCH

Provides services for staff recruitment and selection, employee relations, job classifications, staff training and development, and safety programs.

Highlights

Resource Revenue Branch

The business goal of the Resource Revenue Branch is to ensure that the Crown receives its fair share of resource revenues.

During the year, the Branch reorganized into three branches: Petroleum Revenues, Mineral Revenues and Energy Revenues Audit.

Work began on a project to design, develop and implement a computerized resource management system. The 20-month project will provide the Ministry with the resources to manage the collection, verification and reporting of the production and royalties on petroleum and natural gas.

As a result of recommendations of the Mining Industry Task Force, drafting commenced on a new Mineral Tax Act which will consolidate four existing statutes, and establish a common, profit-based taxation system for all mines in the Province.

Administration Branch

The Administration Branch developed the Treasury Board submission for consolidation of operations of the Ministry's Victoria headquarters in November, 1988. Treasury Board and Cabinet subsequently approved the consolidation proposal in March, 1989.

Privatization plans for the sale of Mineral, Petroleum and Energy publications were concluded in May, 1988, with Crown Publications Incorporated, for distribution of all publications produced by the Ministry.

The Branch finalized consolidation of its warehouse function under the umbrella of the Purchasing Commission Warehouse. Completion of the automated Asset Management System occurred by mid-year, 1988, to account for all new goods, transfers, disposals, and write-offs.

The Branch concluded development and publication of the Risk Management Policy and will subsequently follow-up with implementation procedures Ministry-wide.

Information Systems Branch

In 1988, the Ministry focussed its systems efforts on the design and construction of a new Petroleum Royalty system. This two-year project included the implementation of a new simplified royalty regime, the reorganization of the Petroleum Revenue Branch, and a $2 million systems project.

The Branch installed over 200 computer workstations for professional and clerical staff, and extended electronic mail services to all areas of the Ministry during the year.

Financial Services Branch

Implemented the GMACS-BES Budget Estimates System to replace Treasury Board's IES system which was no longer supported.

Enhanced the GMACS Financial System with supplier inquiry. Supplier coding information is now also available on-line.

Developed in-house programs to produce custom management reports and quick turn-around on federal/provincial cost-sharing claims.

Installed new GMACS-LM Leave Management System to replace manual system and the CLMS system which was abandoned by Government Personnel Services Division.

Personnel Services Branch

The Branch provides services in all areas of human resources management within the Ministry including staffing programs, organization analysis, classification analysis, employment policy, labor relations, training, development, and workplace health and safety.

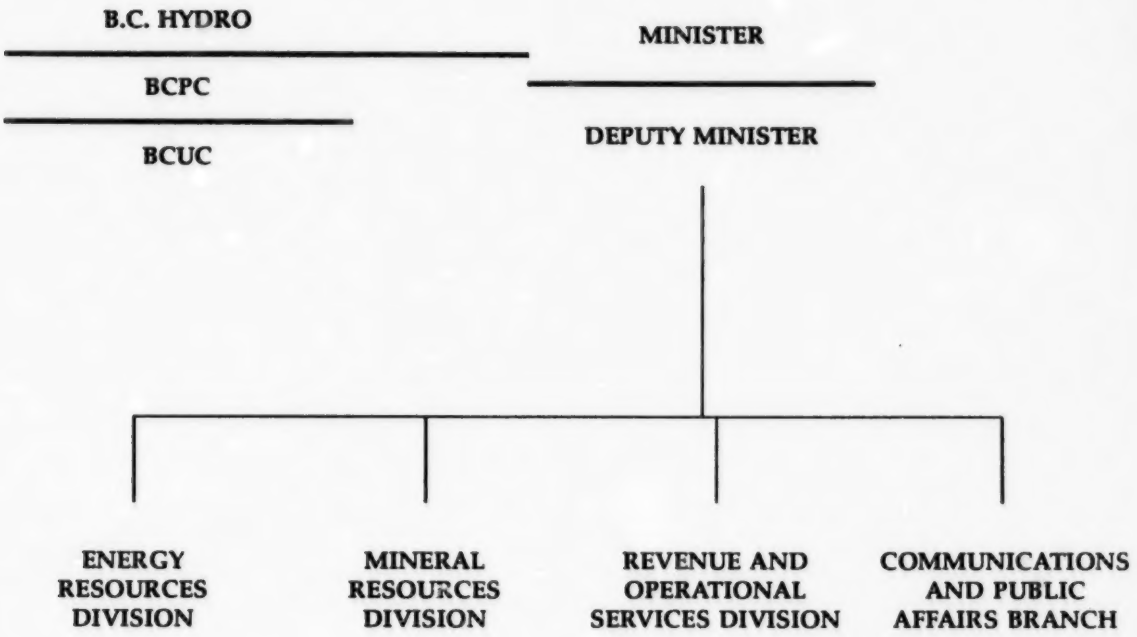
Ministry Expenditures — Standard Expenditure Classifications

	Fiscal Year 1987/88	Fiscal Year 1988/89
Salaries	12,179,761	12,017,758
Supplies and Services	10,922,817	9,801,941
Capital	1,382,018	3,069,586
Other Expenditure (Write Offs)	—	—
Grant (Includes Fort Nelson Revenue Sharing Agreement)	5,150,187	1,137,080
Recoveries (Mineral Development Agreement)	(1,052,141)	(895,610)
Totals	28,582,642	28,130,755

Details of Expenditures by Appropriations and Activities, and by Standard Expenditure Classification

Summary of Expenditures	Fiscal Year 1987/88	Fiscal Year 1988/89
Minister's Office	234,077	250,591
Resource Management Program (Net of Recoveries)		
Executive Management	1,008,492	600,950
Revenue and Operational Services Division	3,626,897	4,865,603
Energy Resources Division	1,924,622	6,152,527
Mineral Resources Division	11,574,914	14,380,166
Petroleum Resources Division	3,866,046	(See Energy)
Fort Nelson Indian Band Revenue Sharing Agreement		
Statutory	397,234	389,744
Financial Administration Act Sec. 24 (c) — Interest on Revenue Refunds	30,139	41,221
Mines Act Sec. 15 (2) — Mine Improvement	3,451	500
Mineral Development Agreement (Net of Recoveries)	1,202,447	977,710
Mineral Exploration Incentives Program	4,714,323	471,765
Totals	28,582,642	28,130,755

Ministry Overview



Legislation

Legislation administered by the Ministry of Energy, Mines and Petroleum Resources includes the following:

Coal Act
Fort Nelson Indian Reserve Minerals Revenue Sharing Act
Gas Utility Act
Geothermal Resources Act
Hydro and Power Authority Act
Hydro and Power Authority Privatization Act
Hydro Power Measures Act
Indian Reserve Mineral Resource Act
Industrial Electricity Rate Discount Act
Mineral Land Tax Act
Mineral Prospectors Act
Mineral Resource Tax Act
Mineral Tenure Act
Mines Act
Mining Right of Way Act
Ministry of Energy, Mines and Petroleum Resources Act
Natural Gas Price Act
Petroleum and Natural Gas Act
Petroleum and Natural Gas/Vancouver Island Railway Lands Act
Petroleum Corporation Act
Pipeline Act
Power Act
Sechelt Indian Government District Enabling Act
Utilities Commission Act

Ministry Telephone Directory

Minister's Office

Honourable Jack Davis, Minister	
Victoria	387-5295
Vancouver	660-3426

Deputy Minister's Office

Douglas H. Horswill, Deputy Minister	387-5137
Executive Co-ordinator	387-5137
Communications Branch	387-5178

Energy Resources Division

John Allan, Assistant Deputy Minister	387-1916
File Room	356-2743
Energy Policy Branch	387-5231
Forecasts & Special Projects Branch	387-3048
Engineering & Operations Branch	387-5993
Petroleum Geology Branch	387-5993
Petroleum Titles Branch	387-1908
Drafting	387-1908

Mineral Resources Division

Bruce McRae, Assistant Deputy Minister	387-6242
Mineral Policy Branch	387-3787
Mineral Titles Branch	387-4417
Engineering & Inspection Branch	387-3781
Geological Survey Branch	356-2818
Chief Geologist	387-0688
Resource Data & Analysis	387-3236
Mineral Deposits & Regional Mapping	356-2844
District Geology & Coal Resources	356-2834
Lapidary	387-6758
Analytical Sciences	387-6249
Scientific Review	356-1693

Revenue and Operational Services Division

Bob Cook, Executive Director	387-5135
Petroleum Revenues Branch	387-6991
Mineral Revenues Branch	387-6999
Energy Revenues Audit	387-6991
Administration Branch	387-1368
Mail Room	387-6248
Library	387-6407
Information Systems Branch	387-1267
Financial Services Branch	387-5185
Personnel Services Branch	387-3775

District Offices

Fernie	423-6884
Fort St. John (Charlie Lake)	787-3450
Mediation & Arbitration Board	787-3403
Kamloops	828-4566
Nanaimo	755-2486
Nelson	354-6125
Prince George	565-6125
Quesnel	992-4222
Smithers	847-7383
Vancouver	
Mineral Titles	660-2672
Engineering & Inspection Branch	660-9372
Geological Survey Branch	660-2812